Notebook Series -- Notebooks by Edison
Notebook, N-11-06-07.1

This notebook was used by Edison during June 1911 and January-May 1913. The entries from 1911 primarily involve the regeneration of old positive electrode tubes from Edison storage batteries. Included are lists of individually numbered tubes soaked in various chemical solutions, with the appearance of the tubes and solutions indicated. The entries from 1913 primarily involve the composition and manufacture of phonograph records. Included are formulas for "blueing" blue amberol records and for "grafiting" submaster records. There are also notes on tests of several hundred numbered preparations of Condensite varnishes, followed by a discussion of a series of "grafiting" and "silvering" experiments aimed at better electrolytic deposits in the record manufacturing process. Toward the back of the book is an undated group of entries, probably from 1913, describing experiments with different preparations of wax to be used in making the submasters. The front cover is labeled "Condensite," with "Regeneration Battery" crossed out. The pages are unnumbered. Approximately 160 pages have been used.

7th June 1911

Expts on regenerating old Lutes by different Chemicals & allowed to nearly 20 in the Cold by soaking —

The Tubes been in water several days & water changed —

12 20 am — [illegible]

920 in Ammonium Phosphate

10th June 10 am — Solution clear put tube in water

891 Iodide K — only small quantity say 2 or 3 grains

10th — 10 am — 1/2" Red Fe separated & allow tube coated only at spots where Fe exposed, ends etc, & Chemical bright —

1705 m Hyposulphite Potash
10th = 1/2" black precip - only
from ends where 7z exposed -

1703 Chloride of Potash -
1/4" sediment bluish, tube clear

525 Cyanide Mercury
1/4 Red sediment Tube clear

892 Tungstate of Potash
Sol clear Tube clean
no sediment

1702 Chromate Potash
Sol Clear - no sediment - tube clean

905 Ammonium Chloride
Strong but not sat, - little red sed
Sol blue or green. some red stuff where
iron Exposed at Ends. Leiber
tube clean

902 Sulphate Ammonia
1/4 Red Fe_2O_3 — Sol blue or green
tube clean except 1/2 cm. top —
Sediment at top end tube

527 Ammonia Citrate
Sol green rather strong —
tube perfectly clean — no
action at end —

903 Benzoate Potash
Sol clear no sediment —
no action, tube end clean

919 Sulphate Zinc
not sat but strong –

Tubes bright – Sol clear slight color tinge, a little black scum on tube wipes off – This is a strange result. – no colloidal ends

1704 Ferrocyanide Potash
No sediment, Sol clear scarcely any colloid at Ends tube yellowish bright –

901 Molybdate Potash
Sol clear tube bright scarcely any colloid at Ends –

526. Nitrate Potash
Sol clear, trace sediment
pred at bottom tube clear
scarcely any action at
ends

906 Nitrite Sodium –
Sol & Tube clear, bright
no action at ends

1706 Cobalt Sulphate
Everything Coated black
tube of some no sediment.

1707 Chlorate Potash

1 inch Red precip -
Tubes bright except Sides of tube
very great action been going
on

904 Zinc Chloride

not sat but strong

Sol Clear, no action at Sides
tubes bright,

All previous tubes still in
Solution 1730 am June 8 1911

Experiments soaking green in a Cobalt solution $CoSO_3$ 7 aq ~~[illegible]~~ then in KOH, to precip. $Co(OH)_2$ in pores in Vacuum Cement, + ~~[illegible]~~ percolating + drying

75 grms Green is wet by 35 CC of Solution (H_2O) +

In 35 CC sol put 2 grms $CoSO_4$

3 5 7 10 15 20

25 ~~[illegible]~~ + 35 grms always with 1/5 grm H_2SO_4

poured all the $CoSO_4$
out that could put
MnO_2 in beaker first
poured KOH 21% over it
let it soak 1/2 hour
then made several
decantations, + left will
night in water -

Regeneration tubes June 26 1911
Reduced 2 days hot in glycerin then put in

3968 – 220 cc glycerin 10 grams
Mercuric Chloride, soaked hot
plate 2 days in pure glycerin
1½ days then in water
24 hours —

3969 – same with 10 grams
Potassium Iodide

2565 — 10 grms KCy

6120. 10 grms. Benzoylcyanide

8807 10 grms HgCy —

8808 10 grms K Nitrite

5368 10 grms K Bromide —

All preceding in 220 cc glycerin & treated lehe
3968 —— took out & soaked 1 day in pure glycerin then 2 days in water & then on test —

1130 am Saturday

Let all Tubes soaked for several days in glycerine then soaked 24 hours in water then all 7 of them put in Conc glycerine containing 10 gms HgCy to each long Cm — HgCy only 2/3 dissolved put the Extra Crystals in & set on board on hot plate

Get numbers Monday & Wash in water —

No 12

Formula for Graphite Lubrication

2 qr Carnauba Wax
2 " Utah Gilsonite
6 " Mexican Crude -
10 " Dispersion of graphite amorp natural

No 13

2 qr Carnauba Wax
2 " Gilsonite
6 " Mexican
10 " Graphite
3 " Yellow high grade Beeswax

Devil

Formula for Blueing Aluminum

60 parts Denatured Alcohol
40 " Water
10 " Acetone
2 " Methyl Blue BB (Heller & Merz)

bring up to 140 deg Fahr & stir well, then cool down all night in cold place 60 degrees about then filter through fine grain Swedish filter paper two thickness,

Deep blue dip 20 minutes
Proper blue " 10 "
Light blue 15 seconds

No Camphor comes out original surface not altered, dries in 2 or 3 hours -

Wipe with dry cloth before dipping to remove grease

Methyl Blue BB (Heller & Merz) with 1/3rd water 2/3 DE Nat alcohol
Dyes cellulose Linen a good blue — 3 hours soak warm & absolutely leaves surface unchanged — dont dissolve out Camphor take no time to season about 5@8%
acetone deepens color & dont dissolve Camphor ~~after~~ or change original surface color or substance

+ Tested

⊕ good.

⊕⊕ Very good

⊕D good but a doubt

Jany 29 1913

Experimenting with Condensite Varnish ~~SP~~ with various substances to get quick surface No run auto at high yield of transfers —

⊕ XO 354 — 5% Common Rosolic (good) acid
+ 355 10% " "
+ 356 - 5% Dulcinic acid
357 " Phenacetinum
+ 358 Beta Naphtol
+ 359 Resorcin
+ 360 Phenacetin
⊕ 361 Perchlorosenol 50% Sol D Nat
+ 362 Monomethylparamidophenol 1/5% Sol
⊕D 363 Benzonaphtol.
⊕⊕ 365 Para Toluolsulphochloride — (Good)
+ 366 Di Oxynaphthalene
+ 367 Paramidophenol.
⊕D 368 Metatolueylendiamine
⊕D 369 Paradichlorophenol
⊕⊕ 364 Alpha Naphtol
⊕ 370 Parachloroaniline 5% 61 gm

All 5%

371 – Paraphenylendiamine PHENOMENON
varnish go to a jelly in 4 hours at ord temp –

+ 372 Betanaphthamine 91% sol
+ 373 Metaphenylenediamine 90% sol
+ 374 1% NaOH.
+ 375 2% "
+ 376 3% "
+ 377 5% "
+ 378 10% " –

+ 379 Anthracene – none sol –
+ 380 Benzonaphtol 50% sol
⊕ 381 Phthalic acid
⊕⊕ 382 Acetanilid try
+ 383 Calcium lemon regal sol
+ 384 Reg Van 3 Kit mixed in mixer twice as long filled here 3 hr ahead time

⊕⊕ 385 – Chloride Ammon 38% sol
+ 386 Naphthalene Hydrochloride 5% sol
+ 387 Benzoate of Palmin 55% sol

+ 388 Cresylic acid
389 Phenanthrene 85% sol
+ 390 Oleic acid
+ 391 Lactic acid
+ 392 Lead acetate 75% sol
+ 393 Orphanyl amine
394 Chloral hydrate
+ 395 Hexachlorethane
396 Citric acid 87% sol
397 Naphthalamine
+ 398 Tartaric acid none sol
⊕ 399 Gum Dammar 55% sol
+ 400 " Kauri
401 Com Rosin –
+ 402 Strychnine Pitch not sol
+ 403 Water 2%
+ 404 " 5%
+ 405 10%
+ 406 20%
407 6/4 9/10 of normal amt
+ 408 8/10
+ 409 7/10
410 1/2
411 4/10
412 3/10
413 2/10

+ 414 Paraformaldehyde 7.9 grams —
⊕⊕ 415 Para Phenylenediamine Basic 2%
+ 416 Acetate Potassium
+ 417 Boric acid pure technical
+ 418 Manganous Chloride anhydrous 61% 135 grams
+ 419 Acetate Magnesia
+ 420 Resorcin Acid 4%
+ 421 " 3½%
+ 422 3%
+ 423 2.5%
⊕ 424 2%
425 Hydroquinone 73% sol
426 Acid Mucic 50% sol
+ 427 Acid Paraoxybenzoic
428 Antipyrin Sulfonic Acid 85%
+ 429 Copper Chl 26% more than pure in
+ 430 Gum Gamboge 50% 5% acid
431 Manilla Copal
+ 432 Acid Malic Oxyphenyl
433 Quinone
+ 434 Gamboge 55% sol 10% acid
+ 435 47% 20% "
⊕⊕ 436 Salicylic Acid try
437 Working Yellow 50% sol
⊕ 438 Rhodamine BX
⊕ 439 Safranine Base 61%
440 Phenophthalein 28% sol

442 Fuchsine base 10% sol
443 Bromo J
444 " 4A
445 Acramine OOB Conc
446 Acid Violet 4BNS Conc 65% try
447 Violet Base 70%
448 Methyl Violet 3PB 65
449 Violet 6B Cryst
450 Victoria blue base 29%
451 Spirit Blue 65%
452 Methyl blue BB 3½%
453 Alkali Blue 66%
454 Victoria blue B 63%
455 Alkali Blue BR 46%
456 Eosaflavine 46
457 Green JH 46
458 Acid Green GLX 8% try
459 " " BB 8%
460 Green base 1107 55%
461 Oil Red 91% 5% used
462 " 10 10 "
463 25 25 "
464 50 50 "
465 Acetanilid 8%
466 " 12%
467 " 3%

468 alpha Naphtol 3%
469 " 8%
470 " 12%
471 Paratoluenesulphochloride 3%
472 " 8% — never got them
473 Parachloroaniline 3%
474 8%
475 12%
476 Amorphous graphite fine 5%
477 " 10%
478 " 15%
479 Strontium Carb 5%
480 10%
481 15%
482 Lampblack 5%
483 10%
484 15%
485 chrysoidine
Gum Dammar 3% 80% sol
486 8 63 "
487 12 53 "
488 S
489 Salicylic acid 3%
490 8% } ng
491 12%
492 Phthalic acid 3%
493 8% } ng
494 12%
495 2

496 Aniline Oil 4% } ng
497 6%
498 Acetanilide 3%
499 5%
500 8%
501 12%
502 Acid Green GCX 3% 83% sol
503 8 12% sol
504 Alkali Blue BR 3%
505 8%
506 Parachloroaniline 5%
507 " 10%
508 Graphite 097 10%
509 25%
510 50%
511 Chloride Ammonium 30 grams
512 " Maximum 30 grams
513 "
514 "
515 Paraphenylenediamine 3% wash off in 18 hours
516 Phthalic acid 5%
517 8%
518 " + one percent Paraphenylenediamine
519 Gum Dammar 5%
520 Parachloroaniline 5% Paraphenylenediamine 2%
521 Reg Peruta 4% + 2% Paraphenylenediamine

522 Rosolic acid 4% + 2% Para P.D.
523 Phthalic a 4% " + 2% "
524 Alpha Naphtol 4% + 2% "
525 Acetanilide 4% + 2% "
526 Diphenylamine 4% + 2% "
527 Acetate Magnesia " " "
528 Hexachloraethan " " "
529 Salicylic acid " " "
530 Safranine base 3% + 2% "
531 Acid violet 4 BN S Conc 3% + " "
532 Bromo J 4% " "
533 Paratoluenesulfochloride 4% + " "
534 ——
535 Tzoo Rem 142 MP 29% triphenol 54 Perla 48 Nap + 95 G/4 1780 cc
536 75% 097 graphite
537 Equal parts "
538 Gum Dammar + 2% Paraphenylene base
539 100% graphite + " "
540 5% Chl Ammonium + 2% "
541 75% Carb Strontia + 2% "

351 — Runs out NG

348 — Runs out NG

354 — 5% Rosolic acid used in varnish instead of Perla as in 344
50 plates — 16 Transfers made
15 blistered up in oven
4 tested — No run outs velvety surface
Works fine in press — good surface
2 pull outs near hole but OK 2 stuck to plate but came off when warmed with hand —

900 II

355 10% Rosolic acid
50 pickles · 2 left ups in Oven
48 transfer plates · 24 transfers
14 OK 2 2nd ok Cond —
2 wldnt t & Cond —
1 Streak to plate Var peeled off in manhole
1 Var peeled off
1 small cut
1 Var dedent f Crew wall in manhole
5 discards 3 with slight
Cut 1 Crack in Var
1 peeled & Corked
good Block
5 leaked 1 Run out donut
think its as good as 55% 254

356 - 5% Succinic acid

44 plates - 6 left in oven
19 Transfers made 8 OK four 1 2nd
10 Discards 6 Records [illegible]
1 bad then with [illegible]

357 — Phenanthren 5% —

358 5% Beta naphthol — 50 plates —
8 Left in oven —
20 Transfers made 8 OK [illegible]
11 Discards
6 Records 1st time [illegible] 2nd time
all then out 2 soft, 1 [illegible] —

359 5% Resorcin – none sat.
Lost most transform – 5 tested
all run out – 44 plates [illegible] transform
10 Records – Bad Records —

360 5% Phenacetin [illegible] lost most of
them – all records run out,

361 5% Pyrocat or [illegible]
43 plates [illegible] transform 17 of
1 2nd stage [illegible] 3 Records GOOD
all have been [illegible]
transform – quite [illegible]
5 Records 2 OK 3 slight [illegible]

362 Mono methylparamidophenol 5%
75% Sat – 36 plates [illegible] transform
16 OK 1 2nd [illegible]
[illegible]
5 Records 3 strong [illegible]
1 slight "
1 OK

363 5% Benzonaphtol –
52 plates – 26 transfer
17 OK 2 2nds small spots stuck to
to plates. 7 Doubtful stuck to
plate – no [illegible] 14 blanks stuck
to plate of which 7 OK 7 doubtful
10 [illegible] from plates 4 [illegible]
strongly to get off = good [illegible]
5 Reads 4 OK 1 very slight mark

364 Alpha Naphtol –
45 plates 22 transfer
20 OK 1 [illegible] 1 Doubtful
[illegible] to plate [illegible]
Except 1 which [illegible]
Very [illegible] good – good [illegible]
5 Reads
2 OK
2 Slight mark
1 Very slight mark

GOOD

365 5% Paratoluolsulphochloride -
48 plates 24 Indicator
22 OK 1 2nd 1 Discard
Streak to plates only forced 1
Thin Unusual cracks otherwise from
any other [illegible] Van - plates
had some bubbles which may
show later -
5 Records 4 OK 1 Extremely
faint run out

GOOD -

366 5% Dioxynaphthalene
[illegible] plates 22 Indicator [illegible]
1 2nd 6 Discard 1% streak to
plate, 6 forced 2 [illegible]
Running 4 spotted [illegible]
Real cole good
5 Records 4 slight run out 1 OK

367 5% Paraamidophenol.
45 plates 22 [illegible]
2 OK 20 [illegible] Van pulling up
every plate to look a lead to see
forced off —
1 Recorded 1 OK.

368 5% Methylenediamine
48 plates 24 [illegible]
20 OK 1 [illegible] 3 [illegible]
pulled out occasional plates
Van 1 OK good —
5 Recorded 1 Single RO
2 [illegible] RO
1 OK
1 Run Dead

GOOD

369 5% Paradichlorphenol
43 plates ~~3 Dis~~ 18 OR
3 discards, 1 old edge - 1 small
piece pulled out, 1 Run started
plate — coke very small
5 Records 3 very [illegible]
1 OR 1 Run out

370 5% Paradichloroaniline
48 plates 24 transfers 20 OR -
1 2nd 3 Discards 2 [illegible]
[illegible] coke [illegible]
5 Records 3 Very slight Run out
2 OR —
[illegible] -

GOOD

371 -

372 5% Betanaphthylamine 91% dim
28 plates 14 Transfers
9 OK 1 2nd 4 Discards –
1 Var pulled off 3 Var Lifted
+ Crack – good surface [illegible] only
four 5 Records
1 slight runout
4 Run Out

373 5% Meta Phenylendiamine 90% Dim
25 plates 12 Transfers
4 OK 1 2nd 7 Discards –
Var pulled off from 2nd gas – Var
Lifted – [illegible]
good 2 Records OK [illegible]

375 2% Na Oft.
28 plates 14 Transfers –
2 OK 12 Discards –
Discards all were varn pulled off
at 2nd gas off Glank – Var seems
Thin + dark [illegible]
Glank 1 Record OK

374 10% NaOH.

24 plates 12 transformers
6 OK 6 Discards
4 stuck to plate, 2 lifted —
Crap - poor coking Vari

4th Rec 1 OK
2 Runout
1 slight Runout

390 5% Oleic acid —

Dont stick to Hanman dover plate
at 40C - 2 or 3 some right
Veneer whole, most cracked —
found drops Oleic on the oro
on plate - no —

378 - 10% NaOH.
Easy state bleaches
Dont condense, scratch
Condensate. Easy with
temper work — 1 kg —

Aniline [illegible]
by heat for [illegible]
[illegible]
Pentra — Hallers Mang

Alkali 3R — [illegible] soften
67c Mod high temp

Callan [illegible] Dont
soften -

Alkali Blue [illegible] Very [illegible]
[illegible] Softener [illegible] temp
75c lb

Methyl Blue BB smoker 60 C lb
Concentrated Daftons high temp

Victoria Blue [illegible]
Daftons Easy – 37 Cents.

Patent Blue + Cone smoker
Concentrated Daftons high
temp

Victoria Blue Brown – Melts to
a liquid easy – very little
smoke – 75 cents

Blue B Methyl Violet –
Concentrated Smoker
Daftons high temp 65 Cents

Chrysoidin R Brown 70 C
Melts easy [illegible]

Phneo Brown E T Dont Melt

Chin Yellow W Cone Dont melt

Nanking Yellow P Melts high temp 75c

Auramine O O B Conc Melts very low smoking 51c

1,15 Auramine O Base Yellow powder Melts easy to liquid

Resorcin Brown L X Dont melt.

Chrysoidine Y Dry compound 1.19

28c " R Melts very thick liquid

Bismarck Brown 2R [illegible]

Phosphine Hydro - Melts very high — 50c

Croc Scarlet 11100 Dont melt.

Fuchsine - Base Melts fairly easy to liquid 1.00

Violet 6 B Crystal Cakes high temp, Sinc 6.68

55c Acid Violet 4 BM 1 Col Cakes very high Temp

72c Violet Base - Melts easy to liquid

38c Methyl Violet 3 BP - Melts to a thick liquid

Croc Orange C 2544 Dont melt

90c Rhodamine BX. Melts [illegible] smoke

56c Fuchsine RT Cakes high temp some smoke

Acid Magenta - Dont melt

1.35 Safranine Base Cakes [illegible] very high temp [illegible]

Cakes " [illegible]

35 Green M Melts very smoke liquid

40 Acid Green BB Cakes high temp

45c " " CGX "

Green R Melts moderate temp lots smoke

[illegible]

Green Ft Base - yellow powder melts
Easy to grind liquid — 82c

Orange Y Melts too high - Smokes
Saffrano G F F X. Does not melt
Rhodamine Base, melts [illegible]
Easy to thick liquid — 1.50

70 Brown 4 A [illegible]
120 Rhodamine B X melts too high [illegible]
to thick liquid
65c Brown J [illegible]
high temp

Aquarino Cakes high temp [illegible]
67c Alkali 3 R [illegible]
[illegible]
Cotton [illegible]
Alkali [illegible]
75c [illegible]

380 – 30 placed 15 Trans
8 OK 3 2nds 4 Discards
Van lifted up 4 and 3 [illegible]
at Edgar
5 Records [illegible]
3 [illegible]

383 – Stuff not real –
24 placed 13 Trans 4 OK
8 Discards
Records not checked

385 2nd placed 13 Trans
13 OK – [illegible]
[illegible]

GOOD

3rd on 29 [illegible]
5 OK [illegible]
all have Van walked on around Edgar
No stuff discarded
Records not checked

375 28 pl [illegible] 14 Trans
2 OK 12 [illegible]
Na OH [illegible]

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381 — 30 pl [illegible] 15 Trans Phthalic acid
14 OK [illegible] smallest [illegible] —
A1 — 5 Rounds
1 [illegible]
GOOD 2 OK
1 [illegible]
not black 1 Runout not black

---

382 30 pl [illegible] 15 Trans
13 OK 2 [illegible] — Vary
Cracked at Edge — 10 [illegible]
all [illegible] from plate
[illegible]
5 Rounds 5 OK
GOOD VERY - Acetanilid

393 - 27 plates 13 Trans 11 OK 2 demands
These are A1 - in every way except small chips
a piece pulled or chipped out near
Edge. This Var shows up very well
Excellent appearing surfaces, black
free from specks of smoke - no cracks
[illegible] 5 Tested - 2 OK - 1 very slight Run out
2 Run outs. - Not good Varnish -

387 24 plates 12 Trans 10 OK
1 Discard 1 2nd -
Var peeled off, small cracks
[illegible] 5 Records
5 Run Outs

286 - 29 plates 14 Trans
5 OK 2 2nds small grooves [illegible]
7 Discards - Good Var freely
all came off freely
4 Records 2 OK 1 little run out
1 Bad run out

399 - 24 plates 12 Trans
9 OK 3 2nds small cracks
Checks again spot - No seconds
Looks good don't think to plate
or break at Edges
5 Records 3 OK 1 slight run out
1 Run out weak -
Pretty good Varnish -

395 27 plates 13 Trans
11 OK 1 2nd - Var stuck plate in
small spots quite well - [illegible]
freely from plates [illegible]
very slight crack scan - looks well
good appearing
1 Bad run out
1 Run out
1 Slight run out surfaces not [illegible]
1 " Crackly surface
1 OK
Not good Var

13 11
24
152
104

400 – 24 plates 12 Trans
6 OK 2 2nds Cracked & peeled
off (with pinch metal 4 Discards)
1 peeled – face surface looks good
air spots show up after
cleaning all night –
Scaled 3 Records 3 Remouls
NG

---

405 24 plates 12 Trans
4 OK 8 Discards Dust flood
smooth 7 Van pick ups
poor coty stuck slightly to
plates – NG –
Dust run out surface not
very good – Bad scraply

---

404 – 24 plates 12 Trans
OK 3 2nds 3 Discards
6 –
NG

---

403 – 24 plates 12 Trans
OK 4 2nds 7 Discards
1 air spots after cleaning
all night show up –
looks well free surface
NG

---

416 – 24 plates 12 Trans
5 OK 1 2nd 6 Discards
3 Cracks 2 Van peeled 1 pick up
NG

---

420 24 plates 12 Trans
6 OK 3 2nds 3 Discards
free surface, surface slightly smoky
2 OK
1 Slight run out
2 Bad run out
Very shiny surface, black –

392 = 24 plates 12 Trans
2 OK 10 Discards
5 cracked at Edge pieces peeled off
5 Var stick to plates, no small pieces NG

391 = 24 P 12 Trans 4 OR 8 Discards
all stick to plate & were forced off
4 have small pieces pulled out
2 Var peeled off – 2 dark flow to a good surface – Variable seems
Conjecture – NG

405 24 P 12 Trans
4 OR 8 Discards 1 Var dark flow smooth 7 Var pickup –
poor coty sticks slightly to plates NG

415 24 Plates 12 Transfers
12 OK – No discards this Var
coks fine – good appearing surfaces
free release – A1 –
5 Records
1 Bad run out
2 OK velvet
1 Slight run out velvet
1 " not velvet

Paraphenylenediamine Bonds 2/0

This is the blackest + most stunning disc we ever had its like jet black + shiny glistens + has a very attractive appearance – GOOD

419 – 24 P 12 Trans
1 Dis cracked 1 Var peeled [illegible]
These Discs Beautiful 2/Yellow.
Very Even, shiny + Attractive –
5 Records 3 Slight run out surfaces only fair
2 Bad run outs

378 – Every plate blistered in oven
NG –

~~389~~

3% Rosalio
422 – 24 plates 12 Trans 9 OK 3 Discards
1 Van pickup 1 Van Ck 1 peeled off
looks very well – free release A1 –
4 Records 2 OK 1 Bad run out
1 faint Run out.
Transfer blanks 7 good 1 2nd pull out
4 Discards Ckd at Edge

2.5% Rosalio
423 24 plates 12 Trans 7 OK
2 2nds 1 pickup 1 Ck –
3 Discards – 2 Van peeled 1 ck
free release looks well

Transfer Blanks 4 ok 4 Discards
1 Ckd 1 dirt or sand from 1 ck
1 light finish out on Gutta
5 Records – 1 Run out at top at music
2 Very faint run outs 2 OK

2% Rosalio –
424 – 24 plates 12 Trans
9 OK 2 2nds 1 spot 1 Ck – 1 Discard
Van peeled off – looks fine – quick appearing
free release A1 –
5 Records 4 OK 1 faint run out.

Transfer Blanks 6 OK 3 pull outs
3 Cracked Edges –
Transfer plates 24 OK 1 Discard
raised – 5 Gutta's –

421 – 24 plates 12 Trans 3.15% Rosalio
9 OK 2 2nds Various
1 Discard Surface slightly
smoky – looks well – free
release A1 – 3 OK faintly kind of
a run out, Very black in many
Surfaces

8/10 6/4

408 — 24 plates, 12 Trans
30 OK 2nd 1 Discards
6 pick up 1 Crack 2 peeled
Debut total NG

406 — 24 plates, 12 Trans
8 OK 1 2nd — 5 Discards
1 peeled 1 Crack, 1 Cracked
free release
Transfer 7 OK 4 Discards
5 Records 1 OK 4 Very slight
run out — usable — good
surfaces

427 — 12 Trans. Paracorygonyx used
6 OK 1 2nd 5 Discards
no total NG

7/10 6/4

409 — 12 Trans
7 OK 1 2nd 4 Discards
Debut total NG

414 — NG — in oven

388 NG "

438 12 Trans 9 OK 1 2nd 2 Discards
1 Crack 1 peeled — looks very good —
free release,
Transfer Cards 8 OK 1 2nd 3
Discards, oven — looks good
5 Records 3 faint run out Crackling
1 Very faint, run out, decent
1 Run Out

434 — NG from oven
417 " "
430 " "
435 " "
429 "

432 12 Trans ~~[illegible]~~
6 OK 6 Discards Mg

436 — 12 Trans 10 OK 2 2nd
moderate Looks fine good surface
free release, few air specs
Trans 6 OK - 1 2nd 3 Discards —

Records 1 Run out not Local
3 OK 1 Surface Run out GOOD
Velvet surface — Salvage the record

439 12 Trans 11 OK 1 Dis (Var pressed)
Excellent, Looks good fine black
surface, free release A 1
5 Records 3 Slight run out not velvet
2 OK
Transfer Blanks 6 OK 1 Only 5
Cracked
Plates 5 Discards Bubbles —

442 12 Trans 7 OK 2 2nds.
Cracks — 3 Discards Cracked or
Pecked around Edge
Work fairly well except for
Cracks
Transfer Blanks OK 2 Discards 10
Cracks
2 Records OK velvet.

433 12 Trans 4 OK 1 2nd 2 chinos
7 Discards (2 cracked 5 pecked
5 stuck to plate forced
off all damaged
Not Checked

437 12 Trans 8 OK 1 2nd Cracked
3 Discards (1 check 1 peck 1 air spot
free release works good — plates
bad with bubbles
Discards 6 — Bubbles Transfers
Covered with bubbles
5 Records 1 Slight RO Surface Cuts
1 " Velvet "
2 OK velvet doesn't cut
1 OK cuts little
probably films on dirty plates

440 — 12 Trans 10 OK 1 2nd 1 Discard
Works very good, excellent appearance
free release, Very had a number of
air bubbles these show plainly
Transfer Blanks None OK air
bubbles — Discards 3 —
5 Rec 1 Run out, cuts
1 OK velvet
2 Run outs doesn't cut
1 slight run out
VARY S

443 — Bromos J. 12 Trans 10 OK
2 2nds (1 check 1 Crack)
Excellent — works very good, good appearance
free release A-1
Transfer Blanks — OK 8 Discards 4
Oven — plates look good
Plates 24 OK 5 Discard
5 Records 2 Slight Run out
2 Run Out
1 OK

441 - Fuchsine RT 12 Trans 10 OK
2 Discards (1 cracked 1 check)
Excellent wkg, had some small bubbles but they scarcely show, good surface in appearance, free release
A-1

Transfers - Not OK, bubbles, Discards Cracked, dirt on surfaces

Oven - Bad air bubbles

Plates, Bad air bubbles
Discards raised 4 bubbles

5 Records 3 slight run out
2 OK

465 8% Acetanilide 12 Transfers
6 OK 1 2nd (air spot)
5 Discards - peeled - Wks good

Transfers 6 OK 6 Discards
pull outs -

Oven (looks good)

Plates 24 6 left over
6 Records 5 OK 1 Run out

466 12% Acetanilide - 12 Transfers
4 OK 8 Discards 5 peeled 2 cracked
5 stick to plates forced off & cover discards

Transfers 4 OK 7 Discards
pull outs -

Oven Pock marked

plates several bubbles on all plates + thin press

Not Tested NG

452 12 Discs 4 OK 2 2nds
6 Discards Not Tested NG

451 12 Discs – 6 OK 2 2nds 4 Discard
Not Tested NG

467 12 Discs 3 OK 9 Discards works
very good 5 stuck to plate Vermark
peels off Not Tested NG

466 12 Disc 4 OK 8 Discards 5 Vern
peeled 2 Cracked – This Vermark
works good although 5 plates
stuck due to Local Cancer
in Transforming, good appearing
surface The 5 stuck to plate fell
forced off + over 12 discards
Not Tested –

444 12 Disc 9 OK 2 2nds 1 Cancel.
1 Discard Cracked Oven – very
good Transfer 6 OK 1 2nd (Cracked)
1 Scratch 4 Discards
4 OK Velvet Except 1 + Chal nearly gone
1 Very slight run out

GOOD

448 12 Discs 5 OK 1 2nd 6
Discards NG Not Tested

449 12 Discs 4 OK 3 2nds 5 Discards
NG not tested

450 12 Discs 6 OK 1 2nd 5 Discards
NG not tested

446 12 Discs, 8 OK 4 Discards (3 Crack, 1 Bubble)
Works good but some air pockets but show
very little after transfer – pressure low.
Transfer 6 OK 4 Discards air blister
raised on surface 1 2nd 1 pull out.
Oven – looks good – plates –
Small air bubbles in all 24 plates –
press discards 5 Cracked 1 bubble.
Records 4 OK VERY VELVET
best surface I have heard yet, on a
Cancel 1 Slight run out slight
traces calling

VERY GOOD

447 - 12 Discs 8 OK 2 2nds (2 air spots)
2 Discards (Very cracked, Local bubbles)
Works well some air spots
free release
Transfers 4 OK 5 Discards (Cracked) 3 bubbles
Oven = Looks fair from air blisters

1 Run out
1 OK not velvet,
2 OK fairly velvet

445 - 12 Discs 8 OK 1 2nd (air bubbles)
3 Discards (2 Very cracked 1 air bubbles
good release - Some air pockets in
Vinyl some show after transfer
Transfers = 8 OK 3 Discards
Oven - Looks very good -
Plates = Very small bubbles on all
24 plates -
1 OK
3 OK Velvet
1 Moderate Run out

473 12 Disc 7 OK 2 2nds 3 Discards
(2 peeled 1 cracked) Looks good - flows
well - free release 4 Records 4 OK
very fine Velvet surfaces -
Transfers - 4 OK 2 2nds (Cracked)
Discards 6 Oven - Looks very
good - Plates OK

471 - 12 Discs 10 OK 1 2nd (air spot)
1 Discard (1 small bubbles) Works very
good 3 stuck to plate forced off
4 OK
Transfers 10 OK 2 Discards
(Cracked) Oven - Looks very
good 5 Records 3 OK very velvet
1 Very slight RO on
start but stopped in time
1 Run Out

470 - 12 Discs 3 OK 3 2nds
(2 cracked 1 pickup) 6 Discards
(peeled cracks + bubbles) stuck to plate
Stuck smoky surface
Transfers 3 OK 9 Discards
Oven looks very good plates
21 cracked + bubbled 9 plates
not cracked not peeled
N.G

469 12 Discs 3 OK 5 2nds (2 Cracked 2 Chunks 1 air opal)
4 Discards - Looks poor
slix to plate Cracks easily & suddenly
Transfers 3 OK - 3 2nds - pull outs
Discards 6 - Oven looks
very good - plates - few bubbles on
all 24 - Not Tested NG

468 12 Discs 1 OK 2 2nds 9 Discards
(5 pecked 3 cracked) looks very poor slix to
plate. Transfers 3 OK 9 Discards -
Oven looks very good - plates - some
bubbles on all 24 plates
NG not tested

460 - 12 Discs - 9 OK 1 2nd Comet -
1 Discard - Varnish had some few air opals
+ slight opales on 6 cracks looks very crack
air opals show faintly free release -
Transfers 4 OK blistered 4 Discards 3
Cracked Oven had big blisters near edges
Plates bad bubbles 24 put them
press Discards 6 bubbles
4 Records 3 slight rim out 1 OK.

459 - 8 Discs 4 OK 1 2nd (air opal)
3 Discards 1 pecked 2 cracks
free release looks good Varnish
Cracks when stands in few hours
NG - Not tested

458 11 Discs - 8 OK 3 Discards (cracks)
works good - fair surface, free release
surface pecks slightly
Transfers 7 OK 1 2nd (very small crack)
Discards 3 pull outs
Oven - looks fair 2 air blisters
Plates - very free small bubbles
Discards 6 cracked
5 Records 5 OK Velvet. VERY GOOD

457 - 12 Discs 5 OK 2nds 1 (Cracks)
Discards 6 - (2 cracked 3 pecked 1 pickup)
free release - looks good
smoky C & ceiling
Transfers 3 OK 7 Discards
2 2nds air bubbles
Not tested NG

Alkali Blue BR

455 12 Discs 9 OK 1 2nd (air spot)
2 Discards Cracked Works good
good surfaces Dinky coating
free release
Transfers — 9 OK 1 2nd (air bubbles)
Discards 2 (Cracked)
Oven fair - air bubbles
Plates — some bubbles on acc 24
Discards 6 (Cracked)
5 Records 5 OK Very fine Velvet surfaces
all alike — GOOD

12% Paradichloranilin

475 = 12 Discs 8 OK 4 Discards
(1 peeled 3 pickups) Works fair, cracks easily
free release,
Transfers 7 OK 5 Discards
Oven look very good —
Plates acc OK
5 Records 5 OK Surfaces good that I
can with diff-cultY hear I —
VERY GOOD REMARKABLE

FINEST YET (Had a cold perhaps hearing bad against dampened)

~~5% graphite~~ Mixtalta mixture

476 — 12 Discs 8 OK 4 discards
(peeled. Works good - fine surfaces
~~Oven~~ — graphite not
Transfers 6 OK 1 2nd small crack
5 Discards pull quite
Oven — Looks good
Plates = few bubbles on acc 24
5 Records 4 OK VELVET
1 Very slight run out

474 12 discs 8 OK 4 discards
1 dull flow smooth — 1 cracked 2 peeled
Works good free release good
surfaces
Transfer 8 OK 4 Discards (Cracked)
Oven — Looks good
Plates OK —
5 Records — 5 OK can just hear
surfaces not quite as good as
475 VERY FINE

There is some ~~graphite~~ Paradichloranilin

492 – 12 Disc 6 OK 3 2nds Left upper
3 Discards Wks fair 3 Stuck
No Test

491 – 12 Discs 1 OK 11 Discards don't
flow smooth Wks poor sluggish
2 plates stuck
Transfers 11 Discards all pull apart
No Test

382 49 plates 24 Discs 18 OK
6 Discards – Wks good fine surfaces
fair release A1 – Transfers
OK 18 Discards 6 Cracked –
Plates 48 OK Oven – fair a few
air blisters

496 – 12 Discs 5 OK 2nds 2 (1 left pecked)
Wks fair – 3 stuck to plate
surfaces cracked
Quandry Not tested

495 12 Disc 7 OK
1 2nd (fine crack)
4 Discards 2 pecked 2 cracked
Wks good 4 stuck to plate
Quandry
Transfers 7 OK 3 Discards
2 pullouts
Not tested

493 – 12 Disc 4 OK 1 2nd
7 Discards Dont flow
smooth Wks poor
3 stuck to plate –
No Test

Something Wrong Thus ro –
382 23 Discs 8 OK 1 2nd air spot
14 Discards 10 pecked 4 Cracked
No Test

probably 383
490 – 12 Discs 5 OK 3 2nds
1 left 2 Checked Crax 4 Discards
Dont flow smooth, Wks poor
3 stuck to plate
No Test

489 – 12 Discs 7 OK
1 2nd Cracked.
4 Discards 2 ckd 2 peeled
3 stick to plates
No test

---

384 – Varnish Req – double length of time in mixing 120 plates 60 shown
50 OK 1 2nd Cracked 9 Discards
4 Cracked 2 peeled 2 lifts. looks very good good smooth surface
free release A1 –
12 Records 30K 4 Run outs 3 very slight run outs 2 " Very slight not velvet
pretty good surface mycalex makes
no use here
Transfers 50 OK 9 Discards
Cracked 1 pull out
There is a sample of Req
to Judge Allen Esq

485 12 Discs 8 OK 1 2nd Cracked
3 Discards 2 peeled 1 pickup –
looks good – good surface free release
5 Records 4 Run outs 1 Run out
surface hard
Transfers 5 OK 3 2nds pull outs
4 Discards – Cracked = OOEM =
looks good – few over bubbles

---

509 12 Discs 10 OK 2 Discards (1 lift
1 Crack) looks very good – few surface
free release A1 Transfers 8 OK
3 Discards 1 OK small white spot
OOEM = plates very good few
bubbles –
5 Records
1 Slight run out
3 Bad Run out
1 RO

507 = 12 Discs 10 OK 2 Discards (small lift ups)
Wks very good Clean dump some fans scraped
Opats but not soft = free release
A1 =
2 OK
2 Slight nun cent
Surface fair Transfers OK 9 2 2nds
Light pull out 1 Discard pull out
OOEn = Looks good.

506 = 12 Discs 10 OK 2 Discards
1 Cracked 1 peeled - Wks good free
release A1
2 OK
3 very slight nun cents
fair surface not as good as
Reg Transfers 9 OK
small white opat small on back
Discards Cracked 2 = OOEn
good 1 lift up -

362 24 Discs 18 OK 6 Discards
peeled - Wks good fine surface
free release A1 -
3 Very slight nun cent
2 Run cent not bad
OOEn = Looks fair few air blisters
plates 48 OK
Transfers 18 OK 6 Discards
Cracked.

516 12 Discs 9 OK 1 2nd Concl.
lift up - 2 Discards 1 lift 1 cracked
Wks very good - fine surface slightly
dundgy = free release
Transfers 9 OK 3 2nds slight pull out
OOEn Looks good -

S S

483 12 Discs 7 OK 2 2nds 2 Cracks
3 Discards Wks good fine surface
free release —
1 Run out
3 OK rough surface
1 slight run out
Transfer 5 OK 2 2nds pull outs
Discards 5 Cracked

510 12 Discs 9 OK 2 2nds lifts
1 Discard 1 peeled Wks very good
free release Transfer 9 OK
2nds 2 pulled Discards 1 Cracked
Oven bubbles all over plates
fair few blisters

4 OK Very good surface
1 Run out slight
Very good

Make Wear Test,

505 12 Discs 10 OK 1 2nd fine crack
1 Discard Cracked Wks Excellent
free release slightly smudgy
A1 —
1 Very slight Run out
2 OK not very good surface
1 OK fair surface
1 Bad Run out,

511 12 Discs 10 OK 2 2nds Cracked
Wks good free release A1
4 OK only fair surface
1 Very bad run out
Plates rough Very bad
Transfer 1st Heavy matte surface
Discards 1
Transfer Discards 1 Crack
1 Deep scratch 1 Out,

512 12 Discs 10 OK 2 2nds Cracked
Wks very good free release
slightly smudgy A1
5 OK but surface not so
good as 38M Reg

504 12 Discs 11 OK 1 2nd Comet
Small crack Wlks Excellent
Slightly muddy free scratches
A1
2 Run outs
3 OK surfaces like Reg
Transfer OK 11 1 white spot
No discards
Cover few ~~bubbles~~
blisters Plates
few air bubbles on all -

503 12 Discs 10 OK 2 2nd cracked
near holes both Comet -
Wlks Excellent free scratches
A1 - some white spots shown

1 OK Snaps
1 Slight run out
3 OK surfaces good

Transfer 10 2 white spots
Cover few few air blisters
Plates - all OK -

514 12 Discs 11 OK 1 2nd light crack
Wlks Excellent has rusty gray
appearance heavy = free scratches
A1
5 OK Good condition
Nearly Velvet
Transfer 11 OK 2nd 1 scratch
Cover - Very bad, roughed
Plates = Heavy Wattle scratches
rust -

Better Run Wear Test

513 12 Discs 8 OK 1 2nd
Discards 3 1 cracked 2 small holes
Wlks fair - Slightly muddy -
free scratches, Valuable Heavy
4 OK not velvet
1 Slight run out not velvet
Transfer 7 OK 2 2nd pull outs
Discarded Cracked
2 Dirt on surface
Cover Very bad rough
Plates = heavy Wattle scratches
1 Discard Pressed -

484 12 Discs 8 OK 1 2nd Cracked
3 Discards peeled looks very good —
free release
3 OK Velvet
2 Run outs —
Transfers 5 OK Discards 4 Cracked
Oven — fair few air bubbles
Plates Very bubbles on all

502 12 Dis 6 OK 6 Discards
3 Cracked 3 peeled
free release
2 Very slight run out
1 OK
2 Run outs —
Oven — few air bubbles —

482 12 Discs 7 OK 5 Discards 4
peeled one cracked, looks fair —
Sticks to plate
4 OK only just velvet not quite
as good as very 1 Run out
Transfers 7 OK 1 2nd Crack —
4 Discards pull outs
Oven — looks good few air bubbles
Plates had bubbles on all
4 Pawed - Discarded

481 — 12 Disc 7 OK 1 2nd Dugall
holes - 4 Discards 1 peeled
1 picked up — looks fair —
Brownish Yellow Mottled from
segregation Want more $SrCO_3$ —
5 OK Velvet very
Transfers 7 OK 1 cracked 1 2nd pull out
Plates small air bubbles on all
Oven — looks good —

521 — 48 plates 24 Discs 24 OK!
no 2nds or discards — fair excellence
surface looks good free release
Transfers 24 OK Plates 48 OK 1
raised discarded — Oven very fine
12 Records —
5 OK fair surface
5 OK Velvet
2 Run outs —
Better than regular for run outs
Surface generally not as good
as 384 —

522 42 plates 21 Discs 19 OK
2 Discards 1 Cracked 1 peeled
Works Excellent good appearance
free release A1
Transfers OK 19 cracked 2
Plates 42 2 rejected 2 Cracked
Dirt 1 all discards Oven good
few small blisters
12 Records
2 Run out
1 Bad run out
4 OK not nearly as good surfaces Rag
2 Slight run out
3 Very slight run out.

520 - 48 plates 24 Discs 22 OK
1 2nd Cracked Discards 1 peeled
Works Excellent free release A1
Transfers OK 21 Discards 3 Cracked
Plates 48 OK 1 Dirt 1 rejected bad
discards - Oven very fine -
12 Records -
8 OK very velvet,
2 Slight run out only at end velvet
1 Very slight run out not velvet
1 " " Velvet
Surface fine Gilles Uhmer Rag probably Best yet
Try wear test-ded in Cath

Records were 6/4

519 - 24 plates 12 Discs 11 OK 1 Discard
Cracked Works Excellent. free release
A1 -
Transfer 9 OK 2 Discard Cracked
1 2nd small Crack -
Plates - some bubbles on all 24
Discards 5 Cracked 1 rejected
Oven - Very good
5 Records
3 OK Velvet
1 Run out
1 " only at end

518 12 Discs 10 OK 1 2nd left up
1 Discard dirt flow smooth
Works good - free release A1 -
Transfers OK 10 1 Discard peel up
1 2nd light peel up -
Plates some bubbles on all
1 Discard Rejected - Oven very good
2 OK Velvet 2 Run out 1 Slight Run out

523 42 plates 21 Discs 15 OK Discards 6
3 left 1 peeled 2 Cracked —
Looks good — Face excellent slightly mundgy
Transfers OK 14 Discards 6
Cracked 1 Dirt. Plates 42 OK 4 Discards
ruined — Oven looks very good
2 left up
12 Records 7 OK
5 Slight run out
Transfers fairly velvet,

---

524 46 plates 21 Discs 13 OK 10 Discards
8 Very peeled 2 cracked — Looks good
Slightly mundgy Discards not all
due to varnish —
Transfers OK 12 Discards 2 Cracked
Oven — Very good = Plates 46 OK
2 Discard for bubbles —
7 Records — 3 OK not velvet
3 Run outs
1 OK Cuts —

---

415 — 96 plates 48 Discs 31 OK
17 Discards (15 peeled 2 Cracked)
Discards not all due to varnish
Looks good — Transfers 26 OK 21
Discards Cracked 1 2nd pull out
Oven looks very good —
Plates 96 — Discards 3 dirt —
5 Recessed —
12 Records 7 OK velvet
2 Very slight Run out
3 OK not velvet

---

527 — 42 21 Discs 16 OK 5 discards
2 peeled 3 Cracked Looks good
Mundgy Dark red, Yellow & Green
after transfer face excellent
2 OK
6 Runout Rough varnish

---

440 — 96 plates 48 Discs — 43 OK 1 2nd
4 Discards 2 peeled 2 cracked
Looks Excellent face excellent A1 —
Transfer 38 OK 10 Discards Cracked
Plates few bubbles on all plates
2 Discards 2 dirt 1 Ruined
Oven very good some plates have
air bubbles
12 Records — 4 OK velvet 3 OK not velvet
at start but as after
2 Run outs
3 very slight run out
Pretty fair varnish

525 48 – 24 Discs 15 OK & Discards
6 peeled 2 cracked, looks fair
slightly dimmedgy free release
3 OK rough
3 Run outs, rough NG

528 – 48 plates 24 Discs 20 OK
1 2nd left up – Discards 3 – Cracked
looks very good free release A1 –
Transfers 19 OK 3 cracked 1 dirt
1 2nd light pull out Plates 48 OK
2 Discards removed Oven very good
12 Records –
2 Slight Run out not quite velvet
2 Very slight Runout Velvet
5 OK Velvet
2 Run out 1 fairly bad
Pretty good Vocalion My card is better a Vlean surface & certain probably this surface as good as any
Repackaged album is cheap – made in Germany Electrically =

1 mo 70 pkg
kits – 2+8
1931

530 – 23 Discs 18 OK 2 2nds
(Check Cond) Discards 3 (lift ups)
looks very good slightly dimmedgy
some few seed spots, free
release A1 –
Transfers 18 OK Dis 3 Cracked
2 2nds slight pull ups
Plates buffed on acc –
Discards if removed –
Oven good for air blister
1 Run out rough
1 Bad run out rough
2 Slight run outs rough
1 OK Velvet
3 OK rough – Bad NG Velvet

529 24 Discs 18 OK 1 2nd left up
5 Discards 1 peeled & Cracked
looks good slightly dimmedgy
free release Cracks easily
Transfers 14 OK 7 Discards
Cracked 3 2nds pull outs –
Oven very good
Plates 48 OK
3 OK fairly velvet
2 Bad run outs
4 slight " fairly velvet
1 OK Rough –

531 36 plates 18 Dues 17 OK
Dueands 1 peeled Looks Excellent
free release A1 — Transfers OK 17
Dueands 1 Cracked —
Plates some bubbles on all
Dueands 6 removed Overall good
few over 6 Centers —
3 Slight run out rough
2 Run outs Rough
2 OK Rough
685 Records so far punched another
Weather generally the yellowing
rough

532. 42 plates 21 Dues 18 OK
1 2nd Check — 2 Dueands cracked
Looks very good free release
A1 — Transfers 17 OK Dueands 3
Cracked — 1 2nd pull out
Plates 42 OK raised 4 dueands
Overall few over 6 Centers
1 Slight run out rough
2 " faintly velvet
5 OK faintly velvet
1 OK Rough
1 Run out rough
1 Bad Run out

20 Candelaria
6 Tetrachloromanganese starts
turning white —
20 Candelaria
8 Tetra white brittle —

20 Candellaria
10 Tetra fair drive

20 Candel
12 Tetra — hundred fair

20 Candellaria
16 Tetra Best so far

20 Carnauba
30 Tetra —
Thus have the Carnauba
Cracking shrinkage least
we pressed it warm on a
diamond & it CRUSH out
of wire — Guess there is
something in those
submicroscopic pores.

None are available
Checks Best is 20 Wonders
Making beg one now 20 Tetrachloromanganese

538 23 Disc 20 OK Discards 3
(2 Cracked 1 peeled) Looks very good
free scales — A1 — Transfers
19 OK — Discards 4 cracked
Plates 46 OK 2 Discards dirt
2 scored —
Cover looks very good
2 OK not velvet
7 OK velvet
2 Run out not velvet
1 Slight run out not velvet
Think this good as mould has run
787 Times + must be collectable

540 — 24 Discs 21 OK 2 zinks
(2 cracked 1 Comet) 1 discard cracked
Looks fine slightly dirty free
scales, A1 — 1 Transfer 19 OK
3 discards (cracked) — 2 zinks
light pressures
Cover not good packmarked
Plates 45 OK 2 Discards bubbles
1 Bad run out
1 Run out rough
6 OK velvet
2 Slight run out not velvet
2 " Velvet

541 — 23 Discs 14 1 zinc left
8 Discards 5 peeled 3 smears
Cracks looks good, slightly
dirty free scales Machine
striking
Transfers 17 OK Discards 10
Cracked — 1 zinc pressure out
Cover — packmarked Plates
heavy matte finish 48 OK

542 — 24 Discs 20 OK Discards 4
2 peeled 2 cracked Looks good
free scales 1 slight [illegible]
[illegible] 18 OK [illegible]
Cracked 2 chipped around hole
Plates 46 OK Cover looks good
Not yet looked at —

543 24 Dens 18 OK 6 Dessands
4 peeled 2 cracked Wks good
very good surface — free release
Transfer 14 OK 6 Dessands
Cracked Clean — good —
Plates 18 OK

Not yet Loaded Dry

544 — 24 Dens 20 OK 1 completely
dessands 3 — 2 peel 1 cracked
Wks very good Excellent surface
free release — Transfer 18 OK
1 pds 1 white spot 1 light page
out 2 small Crax
Plates 18 OK Oven very good

Not yet Loaded dry —

545 24 Dens 9 OK
15 dessands 6 peeled
Ckd Wks poor — free
release — few air bubbles
Transfer 9 OK 15 dessands
Cracked Plates 19 OK
Thin in opaque & red paint
wall — Clean — very good

Not loaded yet Dry

546 24 — 16 OK 8 dessands
5 peeled 3 Crxd — Wks good
very good surface —
free release — Transfer
11 OK 13 dessands
Plates 48 OK 3 dessands

Not yet Loaded Dry —

March 20. 1913

We have at last got somewhere from use of iron filings distributed over face of a grafted wax Record,

Used filings from 30 on 70 treated with HCl to clean them washed well then used Ethyl alcohol to displace water & then dried —
Most of them fell from the liquid & sort of coat the latter over great surface,

We find very weak Cu solutions must be used + acidulated with K Bisulphate — not H_2SO_4

The filings should be kept moving otherwise they are placed to the Cu film on Record & in brushing off the leverage is small

that it pulls off a piece of the Cuticle this makes a hole & a snap in the mucus

Heavy filings like above is best as they make good contact by their bright colors ½ reduced by hydrogen from oxide to bad light & repeat in order

Also, that when the filings have acted for a minute they get so coated with copper that they no longer act promptly & they should be shaken off & fresh filings put on & this done several times —

We shall have to work up the technique so that no spongy Cu is left on surface & brushing will be unnecessary & mechanism which will

Keep the filing in movement after a rest of 3 or 4 seconds & mechanism generally to make it easy for the man in charge to produce the film without holes, — which from Experimentation in Micro leads me to believe that no Electroplater using graphite & filings ever gets a coating free from holes, which may not matter where ink is used but in the phono every hole gives a snap in the music — These holes are generally about 1/2 to 1/1000 inch in size

No 1 - wax - Liquid or Bisulph too strong - action too strong not being able to move filings quick enough (12) all Some plated to the

the film & had. use a brush
= many become detached
& fuller of film along
leaving a hole -
Think this will be no
record to a wax cylinder
The filmings used as previously
described - putting
Bath -
No 2 Record Expt
used solution 2/3rds weaker
This gave better results
but corks holding record
in dish got loose &
spoiled it so it could
be no better than No 1

No 3 Expt - used a supposedly
weak sol of Cu & fairly
acidulated with
KSO_4. This work very
much better - although
use the brush as it

seemed free of filmings - its
somewhat mottled & the
film must be very thin -
The plating being slower
& the record firmly secured
I was enabled to keep
filmings moving & prevent
their being plated to
the record -
It look fair -

I now must stop guessing
at solution & get down to
actual proportions -

Each record take about
2 or 3 oz of filmings &
fresh doses are put on
every minute or half or
the add ones longer
over the rim of the record -

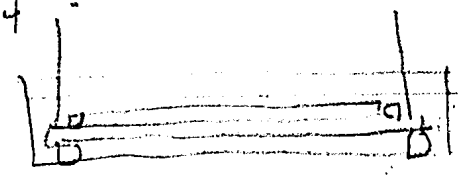
No 4 disc wax Expt

1% Sulphate Cu without any acid or Bisulphate, working slowly & gives brownish red deposit nearly free of dots of spongy Cu (or very fine dots in solution) 1/100 hour

The film is very good no holes except due to defects in the graphite dust,

I immerse the disc & pour filing on & constantly brush it to & fro & forwards over the graphited surface

It is very slow takes 15 or 20 minutes



1/4 sat. soln. second on I

Connected it by angle bars to bring fresh wax from below

The grain is very fine

I plated a 2" disc very thin & it is fine - only 3 holes all defects of original - no holes that show yellow by solution getting under edge & plating crystals -

I put in bath 10 pm Monday

I am now going to try 1/40th of weight of 6 Cells

Vulcat in 1% Sat of acid K Sulphate to increase sensitivity -

No 5 = used 1/100 % as in 4 of Copper but used Bisulphate to 40 gms

it acts quicker but not so very much -

I am fixing the disc so to get greater amount of the solution over the disc

It is now 1/4" & want to get 3/4" the solution

will not be so quickly exhausted.

I find that if filming are properly wet, they go on [illegible] well & [illegible] surface.

No 6 is used with twice as much copper as other times as much Barium phate, 80 grms CuSO4 to 4000 cc water — 2 grms Barium phate —

Will use wet filing & more liquid over lead —

No 7 is 2% CuSO4 no Sulphur K — 80 grms to 4000 cc

It works slowly but I think ok — oxidizes back in air when we develop,

Think we should find something to stop oxidation

It needs a stronger stock. Think 2% without K Sulph is best yet if can get good circulation & development & dehydration of filming

No 8 = 2% CuSO4 no Rochelle K — but I used 10 grammes of 40% Formaldehyde to see if it stops rapid oxidation — Worked same as others Lost filings & brush remaining [illegible] several times —
Works brighter in both but turned dark like the [illegible]

No 9 Cellulose

2% CuSO4
80 grms CuSO4 4000 cc
10 cc Formaldehyde
Covers brighter than wax but don't think graphite is as good — tried considerable time to stop seeing green

Used Hydrazine Sulphate in the 2% CuSO4 — This keeps the Copper deposited bright almost white The grain is of Extraordinary fineness, its perfect, no loose Copper sprong as the secretion is clean & the iron filings do not fluff up & shed the reduced Copper — Care should be taken with the brush & filings than so much used as the deposit is very thin & liable to be injured by hours of brush work. Longer time can be given filings to dry before burnishing —
This Combination seems perfect
It dont oxidize in the air but remains perfect white

Ditto another with Hydroquinone Not so good, not so white or fine & it darkens a little in the air —

Hydrazine Sulphate is great, but its very slow acting — if want quick action, an extremely small amount must be used — With this reagent there is no fluffy Cu left on surface without it just plain 2% $CuSO_4$ there is a very fine film on surface but entirely unobjectionable, The Hydrazine seems to make tenacious films on the iron & it doesn't leave it except too much Hydrazine used — a few drops in a litre will be all that is necessary if any is used,

We now coat Six Celluloid grafted Submersion — grafted 15 minutes one branch — The Celluloid is blue & it shows thru the graphite which proves that single leaf of graphite is transparent It acceptably does the box although hardly appears to be any graphite on it — its Dixon 097 — Nelson amorp but its thin leaves of flake graphite several hundred mesh fine — We will use 095 which is purer 097 87% pure whereas 095 is 95% pure — Just one of the 6 is No 15

We use 2% $CuSO_4$ 80 grms to 4000 CC water + 10 cc 40% formaldehyde — this keeps it bright while films are coming

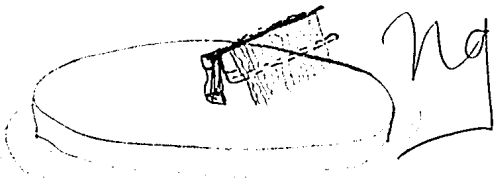
The filings thru 30 on 70 from knife back and cleaned with H2O2 kept wet in OK — bring clean & wet 6 or 8 days on knife & blade in sections over record immersed in solution — immediately after the filings are on a motion is given to ~~dest~~ the record to move the filings & then brush used without any pressure to move the filings about as if they stay too long they plate to record & when moved pull of the film deposited & take the graphite with it this will cause a hole in the working. Mostly. The dish is moved up & down to circulate the liquid which is rapidly exhausted by the filings.

The record seems to cover fine, & when put in plating bath with 3 amp in 5 minutes the oxide is gone & face looks white & yellow & even all over

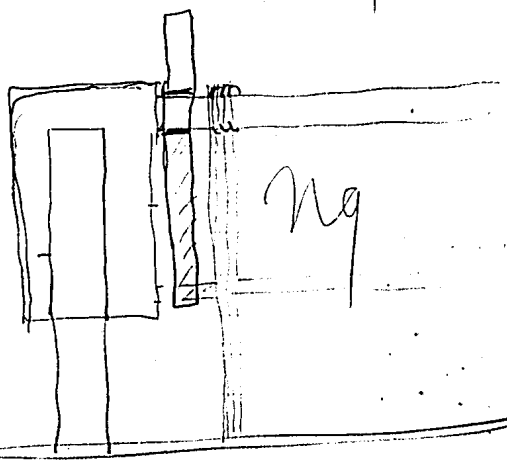
The record after it comes from the filing bath rather rapidly turns dark by oxygen but this is reduced by the current quickly

The expert part of the process is to move the filings about the moment copper appears from them & prevent them from freezing to the deposited copper —

I think I can use Iron wires thus



Rotate the wire which lays on the record with serenely very pressure + the wires on the record rotated,



Wednesday

1st celluloid [illegible] 2/3 of fa

2nd " " worked at longer [illegible] till it [illegible]

Way No 16 –

No 17 1st celluloid

18 2nd celluloid which was worked longer + more [illegible] thicker deposit

No 19 did same as 18 – using time + plenty filings –
It exhausts the solution so it ought to be put in a [illegible] sol. to finish well –
I find by pouring more solution over record it does the trick –

15 20 used more solution over record works fine
is white like in solution
& [illegible] quick —

21 done same as 20 —
I accidentally put thumb on
smooth [illegible] at edge rather
hard as Moore took it
from me the thumb mark
showed [illegible] & quite
[illegible]

22 is 2% $CuSO_4$ no formol
but 10 cc of [illegible] 10% sol
of H_2SO_4 — it works good
[illegible]
[illegible] [illegible]
[illegible]
[illegible] improvement [illegible]
[illegible] the [illegible] solution
yet, its more rapid than
without acid —

23 Dup of 22 10 cc of
10% sol H_2SO_4 & 2% Cu
works rapid & just the
same size —

24 — is 2% $CuSO_4$ &
& 20 cc of 10% sol of
H_2SO_4 — [illegible]
[illegible] [illegible]
from 10 cc acid
think 10 cc is [illegible] —

25 Dup of 24

26 Dup of 24 — goes in 4 Revolution
both two fine streaks on smooth
part can see blue — Covered nice
& not mottled in the least, white
when come out —
Think this is 095 grafite

Note = It takes 2 grams Acetate to coat a second roller 250 cc of Silvering Sol & 250 cc Reducing Sol used -

The object of using Camphor in the Amyl Acetate sol for cementing Celluloid blank to Paper Blank is to leave a solid residue after amyl has evap, to act as solvent when heated gm grains. The amyl a soften & carries Camp in the pores & leaves it there to act as solvent together with some amyl a to keep it soft,

Solution No 1

200 cc Amyl Acetate
24 grammes formula or Natural Camphor
It cuts to a film —
This is for sticking Celluloid to blank -

Solution No 2

200 cc Amyl Acetate
48 grammes Natural Camphor —
Used as above, can't say which is best yet.

Solution No 3

200 CC. Acetate Amyl

75 grms Camphor -

Experiments.

With celluloid Coated with silver To find out how to stop holes in plating

Very thin .2" discs of polished celluloid polished by pressing hot with a polished plunger

1st to ascertain if solution of Reg $CuSO_4$ plus H_2SO_4 attacks the celluloid or has any effect on the ZnO. deposited on the celluloid or on small pieces

2nd Coating a disc with thin silver & putting in Reg plating sol to see if sol has any action on silver

We silvered a piece of window glass, found it full of very fine holes by hacking lamp underneath — also several times bigger than the star group — Middle surface when lamp below is composed of an enormous lot of very fine holes, probably 30 to 40 across a record groove

We shall have to do better than this on glass if its to be a success on celluloid

We note getting some good glass (Lantern Slide or Photo of Comet)

8.50
10.91
9.4
14.93
8.50

12 amp deposits $\frac{1}{1000}$ per hour on big disc - 50 inch area,

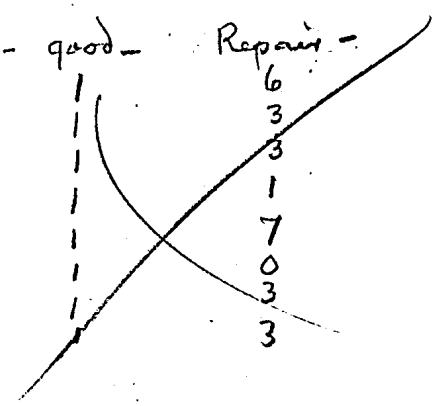
Small Disc has $\frac{1}{10}$ the area - of the 50" area

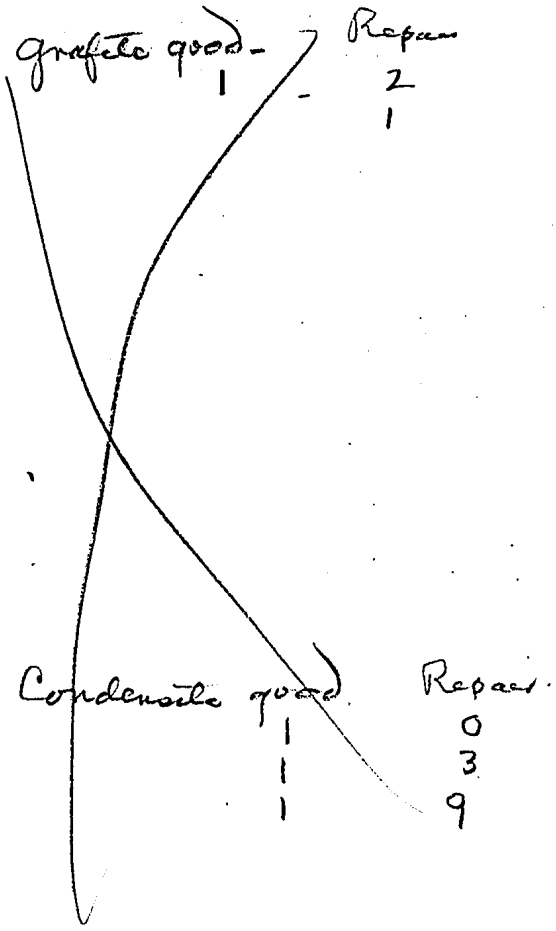
1 amp on 1/2 of big disc is	100 milamp on a small
2	200
3	300
4	400
5	500
6	600
7	700
8	800
9	900
10	1. amp -

Dimwiddie Silvers glass seeq Aq Sol.
Starting at 350 Milamp in,
also a celluloid, run 30 minutes
celluloid best no holes where stripped
glass, 2 very small holes —
Celloid covers best with colour —
1/2/1000 thick —

glass run with 100 ma aq
wouldnt cover all over
for 20 minutes, I increased amp
to 500 Milamp the areas uncovered
then covered right away
It looks as if the semma etc on
the silver didnot cover owing to
low density the covered spots
absorbing the current & high
density polarized the plated
surface & caused the current
to rise to a high density comparably
on the uncovered

This looks as if Silver coated
Rubs should get full current
10 @ 12 amp on the disc at
once,


Aq- good-
Repair -
6
3
3
1
7
0
3
3


graphite good-
Repair
1
2
1
Condensate good
Repair
0
3
9

487 24 plates 4 Discs 2 OK
2 2nds — Transfer 1 OK
2 discards 1 2nd — plates nCC
have bubbles 7 plates no cracked
20 plates Cracked
NG not tested

---

486 12 Discs 6 OK 6 Discards
4 peeled 2 cracked Works good
free release Cracks easily
Plates — Discs 7 cracked —
Transfer some bubbles on all —
24 plates Transfer process —
Oven looks good some bubbles
NG not tested

---

485 12 Disc 8 OK 1 2nd Crap 3 Discs
2 peel 1 pick up — Works good free release
Transfer — 5 OK 3 2nds — Discs 4
Crap
Oven looks good free air bubbles
Transfer ok nCC air bubs in nCC
24 Discs 3 removed
No Test

484 12 Disc 8 OK 1 2nd Crax 3 discs peeled — looks very good fine surface free release
Transfers 8 OK Discs 4 Crax
Oven — looks fair few Electron Plates bad bubs on all 24
No test.

483 12 Dis 7 OK 2 2nds Crax 3 Discs 1 peel 2 Crax — looks good fine surface free release
Transfers OK 5 2nds 2 pull out
Discs 5 Crax — Oven — looks fair, air blanking, bad bubs on all
No test

492 12 Disc 6 OK 3 2nds left 3 Discs looks fair 3 black
no test

491 — 12 Disc 1 OK 11 Discs dont flow smooth looks poor sluggish — 2 plates black
Transfers 11 Discs all pull out
NG No test.

382 49 plates 24 Dus 18 OK
6 Dusts packed Looks good
fine surfaces free sections
A-1 Transfers 18 OK 6 Dusts
Crazed Plates — 48 OK ovens,
fair free blisters —
No test,

---

551 - 24 Dus 20 OK 2 2nds 1 Left
1 Curved 1 crack - 2 Dusts Crazed
Looks fine Excellent surfaces free sections
Transfers 19 OK 4 Dusts Crazed 1 dirt
Plates, 48 OK 1 raised 1 blisters
OVEN good

Rough slight marks 3
OK rough — 1
No test on other 5

---

553 - 24 17 OK 3 2nds 1 peel 1 check 1 left
3 Cracks — Looks good slightly smudgy
Transfers 18 OK Dusts 4 1 2nds pulled
out around seaming 1 blisters
Plates 50 OK — oven good
Didn't test moulds pounded
8 7/8 times + too rough —

May 12 1913

554 — 48 24 Disc 18 OK 1 2nd
5 Discs Crax — Wks good fine
sections slightly smudgy
Transfers 15 OK 8 Discs crax 1 2nd
Light peel out,
Plates 48 OK — Open good

OK Little Rough 1
Slight run out good surf 1
OK good surface 2
Run out fair surf 1
OK but Cuts 1

521 — Run Thru same time as
554 — 46 plates 23 Discs 20 OK
3 Discs 1 peel 2 crax Wks very
good Excellent surface peel
sections slightly smudgy
Transfers, 16 OK Discards 6
Crax over 6 Cuts
Open good — Plates, 46 OK 2 Dis
run

2 OK
4 Run out little, rough — one cut

May 12 1913

Keeping 4 petri 2 paraphenylenediamine
Vacuum 24 hours then flooding

6 plates 3 discs — 2 OK 1 concl 2nd —
Very shiny — fair surface —

Ditto 48 hours
2 OK surfaces about same as 24 hours

Ditto 96 hours 2 OK surfaces better
than 24 or 48 hours

Ditto 120 hours — Very much better
surface than 24 — 48 — or even 96 hours
but both plates stuck to block

559- 2% Paraphenylenediamine
5% Penta.

560- 3% Paraphenylenediamine
5% Penta

561- 3% Paraphenylenediamine
6% Penta.

562 521 2½% low alcohol

563 521 5% "

564 384 2½% "

565- Varnish drawn off flowerbed
waved till got a quantity —

May 12 1913

384- New lot out stock

2 OK not velvet rough
3 Slightness out.
1 OK Velvet
1 Run out.

Notwithstanding the 3 jets of
Solution washing from
grafted Wrist. There are
still bubbles cling to
surface when plating
I am now going to
Cover 1¼/1000 with
Electrolyte bath
in Iron Vac Chamber
this week but there —

557 - Reg 521 with 5% more alcohol - its no good - only got 50% good transfer with 2½% more alcohol got only 54% good transfers seems to be thicker lines in good one.

561 48 Plates 24 Discs 20 OK
2 2nds left. Discs 2 (1 crap 1 peel)
Looks very good - very good surface
2 stuck to plate A-1 83.3% Transfer good
12 Records Tested
11 OK
1 very slow run out for short space
Plates. 48 OK 1 dirt 1 scratch
Transfer 17 OK 6 Discs 1 2nd

560 24 Disc 19 OK 1 2nd left
Discs 4 (3 lefts 1 reel) works very
good - very good conformance
1 stuck to plate A 1 - 80%
Transfer, 16 OK 3 Discs Crack
2nd to 5 pull out of plate, OK
Tests
8 OK
2 very slight run out
2 OK - Little Chatter

559 24 Dis 20 OK 4 Discs
(2 lefts, 2 reel) works v good very
good conf - 3 stuck plates
A-1
Tests
7 OK
3 moderate run out
1 Big flaw
1 Cracked Core

563 – 521 with 5% less Alcohol
24 Disc 17 OK / (1 peel 2nd) 6
discs (3 crax 3 peel) wake good
good emf free release,
Quandary – Label lifted up on one
when dried for test –
All have red tinge not black
as they should be. Thinks
mistake came made within
Transfer 14 OK 10 discs
Plates 48 – 2 rejected
OK 9 – velvet
Run out a little 3

562 521 with 2½% less
Alcohol – OK 15 2nds 3
1 lift 2 Crax – Discs 6, 4 Crax
wake fair good emf – free release
Quandary – plates 48 OK 2 lifts
Transfers 14 OK 10 Discs Crax
1 2nd Crxd in transfer

OK 5
Slots run out 3
Ring Crack 1
Ring out 2

Experiment to get Wax from which we make emulsions so it will not be affected by Water & thus prevent Cracking Sounds when grafted Silkworkers to put in plating Bath —

Using Red Mountain 4 min | doping it with 1 of Melange

1st Crude Resin

Mixes OK — This gives Mountain a brilliant black shiny surface — only need 1/3 quantity of Crude Rosin

Using More Cresol resin
gives dull surface
stix to dish —

Paraffin predomtg & Montan
stix to dish - shiny surface
not promising

Cresol Resin greatly predomtg
Paraffin - shiny surface
Promising
Cracks on cooling from
warm to ice cold water
it will leave dish OK
promising - weak & powdery
Cut like Montan - too
much Cresol Res

Paraffin predomtg with
Cresol Resin stix
to dish - not
promising —

Montan & Rosolic Acid don't
mix well — ng —

Paraffin - little predomtg
Carnauba - friable
shiny but bad bad chemic
thinkit will give very
shiny brown film
very friable coat
Promising break not shiny
slightly sticky to hot hand —

Paraffin & Rosolic Acid
don't mix ng

Paraffin & Stearate Alumina
Don't seem to mix —
ng —

Acetanilid
Rosolic Acid predomtg
Shaks dish bad
smooth dish

ng

Stearic acid & Cresolic 1
Resorcic acid dont mix
NG

Cresolic Resorcinol
& Co adsorbed —
mixes shiny surface
Leaves new crack form
only shiny surface?
Promising
Little sticky at least hard
(Break to a sandwich temp)

Stearic A Predom
Pentalite — Stex to crack
bad — Crystalize NG —

Stearic a Predom
Cresol Resorcic
Dont mix NG

Stearic acid
Moulan
Comes loose without
Dull bottom surface
fracture crack —
Moulan is cordially full
of mechanically stuff had
in compounding
Got out oil to work well
Big shrinkage

If can purify Moulan may work

Stearic —
White Carnauba
Moulan
VERY promising
dont crystalize or shrink back
fairly good shining surface
Contracts so cracks circularly 1/8"
around edge leaves crack without
Dull crack — Tough — Not sticky — good

GOOD

Japan wax Pred greatly
Montan —

leaves dark underneath
Dullish surface
Break dull —
The trouble with the montan

Japan wax
only punch of Montan
Cracks — in several places
family shiny — its soft
& brittle — not very
promising alone —

Paraffine
Stearic
Ceresin —
punch negrosin — of out wax

GOOD

Comes off dark free
good surface no
shrinkage ~~or~~ only trace

VERY PROMISING

Though — fine cut, easy think
it will do for secondary
quick begins no shrinkage
Low MP —
Top flat —

Stearic
Paraffin
Ceresin
Japan —
} abt equal

Mice — Comes free only in 3
Sections — Surface not very good
No shrinkage at all apparently

Stearic
Ceresin } abt Equal
Paraffin

Negroson BB Base -

Stix bad to dish —
poor surface on press
broken away
as this good before, its
evidently that proper
proportions is essential

Stearic
Ceresin
Paraffin
Crude Montan -

Comes free dish - Contracts in cold
water at 1/8 of Edge breaks away -
shiny surface good - hard cut
GOOD promising —

good

Stearic
Ceresin
Concentrated Crude Montan
Heated dish —
Extra good surface shrinks only
little nearly flat top
Comes off free from dish
in cold water —
Promising Cuts hard
& its tough to bend —

Crude Montan &
acetamide —
Ng - Seperates on Cooling

Good

Stearic
Ceresin
Montan Crude
Carnauba -
Good surface - Comes free -
dont contract. fairly level
top at Center Confused
if this were colored
black it would be very
fine surface -
Very hard to Cut - Strong

Good

Crude Montan
Little Ceresin
Very little contraction
Comes free good surface
would be better if
powered — hot plate

Crude Montan
Paraphenylenediamine —
Crystallizes out H.G

Ceresin
Crude Montan
A little Stearine Pitch to color
it black which it does
fine — Comes free in section
Beautiful black
surface — hard —
Proper proportions will
give good results
I think —

Stearine Pitch is apparently
fine for blackening if it
dont harden
Can get harder as time
in semi liquid —

Crude Montan
Ceresin
Alpha Naphtal –
free – good surface
flat top – can bend it
soft, wants less
Ceresin – Promising
New Line –

Phenomenon –
Crude Montan predominating
Alpha Naphtal –
Soft or plastic –

Crude Montan
predominating
a little Ceresin –
½ quantity as to Montan
of Alpha Naphtal –
Plastic bends,
Wonderful effect
of Alpha Nap –

Crude Montan
only 10 to 15% Alpha Naphtal
hard, less free from
surface – Then shows
Can offset Montan by
Alpha Naphtal
in excess (quantity
probably wants 20 @ 25%)

Christiansen -

4 Sleanic
1 Ceresin
1 4 min Montan } NG

4 Sleanic
1 Ceresin
3 Montan } almost free not very good surface

4 Sleanic
1 Ceresin
4 Montan } Comes free fine - fair surface

4 Sleanic
1 Ceresin
5 Montan } GOOD Comes free Nice surface

4 Sleanic
1 Ceresin
6 Montan } freest of all - GOOD Elegant surface

4 Sleanic
1 Ceresin
2 Montan } Dull Comes free

4 Sleanic
2 Ceresin
2 Montan } Comes free in part fair surface

Record Montan used

4 Sleanic
3 Ceresin
2 Montan } GOOD All free good surface

4 Sleanic
4 Ceresin
2 Montan } all free - rounded Edges surface pretty fair

4 Sleanic
5 Ceresin
2 Montan } not free - Dull surface NG

4 Sleanic
6 Ceresin
2 Montan } sticks mufed - Dull - NG

4 Sleanic
3 Ceresin
1 Montan } Comes off partly fair surface Except in middle 12

4 Sleanic
3 Ceresin
3 Montan } Same as 12

4 Sleanic
3 Ceresin
4 Montan } GOOD Comes free good surface 14

4 Stearic
3 Ceresin
5 Montan } Same as 14 surface not quite so good -

4 Stearic
3 Ceresin
6 Montan } about same as 14
No contraction

4 Stearic
2 Ceresin
1 Montan } Rounded Edges -
Doesn't leave plate

4 Stearic
2 Ceresin
3 Montan } Don't leave plate
small piece shows poor surface

GOOD

4 Stearic
2 Ceresin
4 Montan } Comes off intact
good surface - X

4 Stearic
2 Ceresin
5 Montan } 1/2 leaves plate
not as good surface as as X

21 = 4 Stearic
2 Ceresin
6 Montan } Comes off free without
Cutting Edges -
pretty good surface

22 = 4 Stearic
4 Ceresin
1 Montan } Stuck to dishwell cover

23 = 4 Stearic
4 Ceresin
3 Montan } 1/3rd comes off not
good surface

24 4 Stearic
4 Ceresin
4 Montan } Stuck to dishwell cover

25 = 4 Stearic
4 Ceresin
5 Montan } Comes off free
surface dull

26 4 Stearic
4 Ceresin
6 Montan } Comes off free
surface fair -

Phenomenon

Carnauba Wax +
Alpha Naphtol - or acetanilid forget which
flat top 1/2 free no shrinkage
Resembles + cuts like White Record
Wax

Carnauba Predom
Toluolsulfochloride Para
Formaldehyde

Carnauba P
Monomethylparaamidophenol
Awful shrinkage

Carnauba P
Hexachloroethane
Shrinks Crazy

Carnauba Pred
Paraamidophenol —
Shrinks-Crazy

Carnauba P
Metaphenylenediamine
Fretho - Don't Mix

Carnauba Pred
Acetanilid
Shrinks Crazy

Carnauba Pred
Beta Naphthol
Awful Shrinks Crackle

Carnauba
Paradichlorobenzol
Crystalizes Quit Mg

Crude Montan used
grms 1 to 6 –

No 1

3 Stearic 1 Ceresin –

W Montan 1 Sticks dirty
1 Sl 2 Frez dont mix Good surface
3 Good surface Auto frez from plate
4 " "
5 " "
6 pretty good surface "

No 2

4 3 Stearic 2 Ceresin

Montan 1 ½ frez pryed off very good surface yellow
2 9/10 " "
3 ½ " fair surface
4 ½ not good surface
5 all frez. "
6 " pretty fair surface

No 3

3 Stearic 3 Ceresin

Montan 4 1 Sticks
2 Sticks
3 Comes off OK pretty good surface
4 ½ comes off Dull –
5 8/10 " "
6 8/10 " "

No 4

3 Stearic 4 Ceresin 4 –

Montan 1 Sticks
2 Sticks
3 ½ Comes off Dull –
4 ½ " fair surface
5 ½ poor dull
6 ½ fair surface

No 6 – note

2 Stearic 1 Ceresin

Montan 1 ¼ comes off dont mix
2 All comes off – pretty good surface
3 " Good surface
4 Auto comes off " Little cloudy
5 " Little cloudy all over
6 " "

No 5 ? note

3 Sleanic 5 Cerium

Montan — 1 1/4 pieces off some surface
2 1/2 " "
3 1/2 " good surface
4 1/2 " "
5 All comes off "
6 " "

No 7

2 Sleanic 2 Cerium

Montan 1 1/3 piece off fair surface
2 all comes off rounded edges good surface
3 1/2 off good (fine) surface
4 all off "
5 1/2 off fair surface
6 all off Very fine surface except in Center 1/2" has dull —

No 8

2 Sleanic 3 Cerium

Montan 1 Sticks
2 1/2 off good surface
3 9/10 " " " Except center
4 All off " " "
5 " fine surface except small center
6 3/4 off — Dull —

No 9

2 Sleanic 5 Cerium

Montan 1 Stix
2 1/2" fine surface except small center
3 Stix
4 all off fine surface except 1/2" center
5 9/10 off - Too much Good center
6 9/10 off "

No 10

2 Sleanic 5 Cerium

Montan 1 Stix
2 "
3 1/2 off fine surf except 1/2" center
4 9/10 off good " " "
5 9/10 " "
6 1/2 " "

No 11 -

1 Sleanic 1 Cerium

Montan 1 1/4 off - beautiful surface rounded edges
2 3/4 - off only fair surface
3 Quite off good surface
4 " " (fine) " Center also
5 " " "
6 " Very fine surface Center + all

K012 —

1 Sleanic 2 Cerasin

Montana 1 1/2 off good surface
2 1/2 " " bad center
3 Acts loose, fine surface bad Center
4 8/10 off " "
5 8/10 off good surface "
6 Acts loose fair surface good

Center Dull & Cracks all loose

K013

1 Sleanic 3, Cerasin

Montana 1 Sticks desk
2 1/3 off good surface
3 1/2 off "
4 all off - rounded Edges good surf bad center Stuck
5 1/2 off Cheaky surface
6 all off - 1/4" center stuck

K014

1 Sleanic 4 Cerasin

Montana 1 Stix
2 Stix
3 1/8 off
4 1/2 off fine surface
5 8/10 " center dull
6 all off " 1/2" "

Montana Crude GOOD

Manilla Copal - Big bottle only marked Copal —
It didnt seem to go in it melted & nearly went in - I finished more by it out
Evidently from Sewell's connecticut
went in clay 10% —

Fine disc good surface, pried free its hard cuts hard not powdery like Montana —
Contracts some on left Edge all around disk 1/8 — It is on hand from pocket with Silk handkerchief without touching fine surface. No dull Center — Its harder to break than Montana,
Think this Can be worked up

Montan
Gum Dammar —
Liquid goes to high temp without smoking it foams bad finally got it grained carefully & water in it which should be got out before using
Considerable shrinkage
Self cracked so it came off clean square — The hard was hard —
Fine surface but not so fine as Manila Copal

The Gum makes good surface a hard & tough Montan

Think had too much Dammar —

Montan —
Paraamidophenol hard — fair

Montan — Alpha Naphthol NG Cryst
" Salicylanilide NG
" Paraphenylenediamine base Cryst
" Hexachloroethane NG Cryst
"

Montan — Gum Mastic too much — Brittle NG.

Montan — Stearine Pitch only a little greasy softens it Lead Cut dont crinkle apparently at all — Good Blackness — if it is to be used only a very very small quantity necessary

15 1 Slavic 5 Ceresin

Montan 1 Stix
2 Stix
3 Stix
4 fuzz good surf hardly any bad Center
5 8/10 fuzz " "
6 fuzz - good surf only little bad Center

16 - 1 Ceresin

Montan 1 3/4 off good surface
2 Stix
3 fuzz fine surface except 1/4" Center
4 Auto loose fine surface all over
5 " " "
6 " " fine small Center

17 - 1 Slavic

Montan 1 all off fine surf slight 1/4" Center
2 " " "
3 " " "
4 " fair dull streaks
5 " " "
6 " Nice but dull streaks

18 - Japan Wax 4 Ceresin 1

Montan 1 1/4 off good surface
2 Stix
3 1/2 of good surf
4 1/2 "
5 1/2 Very dull
6 1/2 part good part dull

19 4 Japan 2 Ceresin

Montan 1 1/4 - NG
2 Stix Round Edges
3 Stix
4 Round Edge fine surface Center stuck
5 1/2 off
6 All off Very fine surf 1/4" Center dull

20 - 4 Japan 3 Ceresin

Montan 1 1/2 off dull
2 1/4 off fair surf
3 Stix
4 Stix
5 All off Center stuck
6 " " dull

21- 4 Japan 4 Ceresin +
Montan 1 1/2 off dull
2 1/2 "
3 Stix
4 Stix
5 3/4 four surf dull center
6 Stix dull

22- 4 Japan 5 Ceresin
+ Montan 1 1/2 dull
2 1/4 "
3 Stix "
4 "
5 "
6 "

NG

23- 4 Japan
6 Ceresin +
Montan 1 1/2 dullish
2 1/2 off "
3 Stix-
4 1/3 four surface
5 Stix
6 Stix —

24 4 Japan 7 Ceresin
+ Montan 1 1/3 off dull
2 1/4 - "
3 1/4 "
4 1/2 quad surf
5 Stix
6 Stix

25- 4 Japan 8 Ceresin -
+ Montan 1
2 All
3 stuck.
4
5
6.

NG

All Cunningham + Alpha Kapitol
NG.

For coloring wax seals
Deep black fat color
Oil black J.
from Berlin Aniline Wks
213 & 215 Water St NY

fine shine
no center
very black
both —

.75 32-
250
1600
64
80

Tires 3000 miles 2100

3 / 2100
700

52 / 780 (15
52-0
260
260

~~miles~~ 3000 — 75000 (18

18
300
54 00

1175

54

54 tires	60.00
Blowouts 1.80.	15.00
Repairs –	20.00.
Patch –	2.50.
Wages	780 00
Painting –	10.00
tire iron	5.00.
Storing –	50 00
10 KW day 6¢	180 00
	1122.00

20/1000 thick 1 e6 —

10/ " 1/2 3c

3.6

12"

62
12
124
62
74

1728 (2.32
1458
2732
2232
16

144
49
296
1296
1037
1

32 | 114 (3.6 1/32
96
18

37
65
60
12
19.8
201

320000 12
640
3 4

14 | 300 (21
28
2

21 Tons —

40
40000 20
1600
3

100 —
40
21 | 4000
4001
450 | 64